

CLAIMS

What is claimed is:

- 5 1. A method of controlling probe tip sanding in
semiconductor device testing equipment, the method comprising:
 measuring and storing resistance values of pads of a probed
chip;
 increasing a consecutive fail counting value and an
10 accumulated fail counting value when a maximum resistance value
among the stored resistance values is greater than a contact
resistance reference value; and
 generating an automatic sanding command to activate
automatic sanding of a probe tip, when at least one of the
15 consecutive fail counting value and the accumulated fail
counting value is greater than a respective counting reference
value.
- 20 2. The method of claim 1 wherein measuring and storing
resistance values of pads of a probed chip occurs at a wafer
level.

3. The method of claim 1, wherein the contact resistance reference value is determined by:

accumulating the resistance values measured by a resistance value measure program and obtaining a mean value during a pad
5 open/short test for at least one die; and

summing the mean value with an allowed resistance error value.

4. The method of claim 1, wherein said counting reference
10 value corresponding to the consecutive fail counting value is determined statistically.

5. The method of claim 1, wherein said counting reference value corresponding to the accumulated fail counting value is
15 determined statistically.

6. The method of claim 1, wherein said probe tip sanding is performed in an EDS test process.

7. An apparatus for controlling probe tip sanding in semiconductor device testing equipment, said apparatus comprising:

a sanding mechanism for sanding probe tips of a probe card;

5 and

a controller for measuring and storing resistance values of pads of a probed chip, and for increasing a consecutive fail counting value and an accumulated fail counting value when a maximum resistance value among the stored resistance values is greater than a contact resistance reference value, and for generating an automatic sanding command to activate the sanding mechanism, when at least one of the consecutive fail counting value and accumulated fail counting value is greater than a respective counting reference value.

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8. The apparatus of claim 7 wherein the measuring and storing of resistance values of pads of a probed chip occurs at a wafer level.

20 9. The apparatus of claim 7, further comprising counters connected to the controller, for increasing the consecutive fail counting value and the accumulated fail counting value.

10. The apparatus of claim 7, wherein the contact resistance reference value is determined by:

accumulating the resistance values measured by a resistance value measure program and obtaining a mean value during a pad open/short test for at least one die; and

summing the mean value with an allowed resistance error value.

11. The apparatus of claim 7, wherein said counting reference value corresponding to the consecutive fail counting value is determined statistically.

12. The apparatus of claim 7, wherein said counting reference value corresponding to the accumulated fail counting value is determined statistically.